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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BERNARD A. TRAVERSAT, MOHAMED M. ABDELAZIZ,
MICHAEL J. DUIGOU, ERIC POUYOUL, JEAN-CHRISTOPHE
HUGLY, LI GONG, WILLIAM J. YEAGER, WILLIAM N. JOY, and
MICHAEL J. CLARY

Appeal 2009-011167
Application 10/055,650
Technology Center 2400

Before ERIC S. FRAHM, ERIC B. CHEN, and MICHAEL R. ZECHER,
Administrative Patent Judges.

CHEN, *Administrative Patent Judge.*

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) from the final rejection of claims 1-64, all the claims pending in the application. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

Appellants' invention relates to establishing connections between peers in a peer-to-peer networking environment. (Abstract.) A communications channel may use transmit and receive windows, use acknowledgement of received messages, and use retransmission of messages not received to provide reliable delivery of messages between peers in the peer-to-peer environment. (Abstract.)

Claim 1 is exemplary, with disputed limitations in *italics*:

1. A peer computing system, comprising:

a plurality of peer nodes operable to couple to a network, wherein each of the plurality of peer nodes comprises one or more network interfaces, wherein each network interface is configured to communicate over the network in accordance with at least one of one or more network transport protocols;

wherein the plurality of peer nodes is configured to implement a peer-to-peer environment on the network according to a peer-to-peer platform comprising one or more peer-to-peer platform protocols for enabling the plurality of peer nodes to discover each other, communicate with each other, and share content in the peer-to-peer environment, wherein to discover comprises obtaining an address for each discovered peer node

wherein one of the plurality of peer nodes is configured to:

establish a communications channel between a network interface of the peer node and a network interface of another of the plurality of peer nodes;

transmit messages to the other peer node over the communications channel;

receive acknowledgement that one or more of the transmitted messages have been received by the other peer node; and

retransmit messages not acknowledged as received by the other peer node to the other peer node on the communications channel;

wherein said establishing, said transmitting, said receiving, and said retransmitting are performed according to at least one of the one or more peer-to-peer platform protocols and wherein said peer-to-peer platform protocols are distinct from the at least one network transport protocols.

Claims 1-3, 5-7, 11-15, 18, 21, 22, 25-27, 29-31, 35-40, 43, 45-47, 49-51, 55-60 and 63 stand rejected under 35 U.S.C. § 103(a) as being obvious over Davis (U.S. Patent No. 6,105,064), Dreke (U.S. Patent Application Publication No. 2002/0035594 A1) and Black (U.S. Patent No. 5,878,056).

Claims 4, 8-10, 28, 32-34, 48 and 52-54 stand rejected under 35 U.S.C. § 103(a) as being obvious over Davis, Dreke, Black and Barker (U.S. Patent No. 5,931,916).

Claims 16 and 17 stand rejected under 35 U.S.C. § 103(a) as being obvious over Davis, Dreke, Black and Ivanoff (U.S. Patent No. 5,517,622).

Claims 19, 20, 41, 42, 61 and 62 stand rejected under 35 U.S.C. § 103(a) as being obvious over Davis, Dreke, Black and Antur (U.S. Patent No. 6,212,558 B1).

Claims 23, 24, 44 and 64 stand rejected under 35 U.S.C. § 103(a) as being obvious over Davis, Dreke, Black and Zhu (U.S. Patent No. 5,768,527).

§ 103 Rejection – Davis, Dreke and Black

Claims 1, 2, 11, 15, 18, 21, 22, 25, 26, 35, 39, 40, 43, 45, 46, 55, 59, 60 and 63

First, we are not persuaded by Appellants' arguments (App. Br. 11-12; *see also* Reply Br. 2-3) that the combination of Davis, Dreke and Black would not have rendered obvious independent claim 1, including the first disputed limitation "wherein said establishing, said transmitting, said

receiving, and said retransmitting are performed according to at least one of the one or more peer-to-peer platform protocols.”

The Examiner found that the disclosure in Davis of a computer functioning as a peer in a peer-to-peer network, including a sending endnode 32 and a receiving endnode 34 that sends an acknowledgement so that unacknowledged packets are retransmitted, corresponds to the disputed limitation. (Ans. 4-5, 19-20; Davis, col. 8, ll. 21-24; col. 9, ll. 5-8; col. 59, ll. 34-35; col. 73, ll. 44-47.) We agree with the Examiner.

Davis describes communication over a computer network, in particular, an “approach which employs dynamic window sizing, packet metering, and other techniques to provide an efficient and reliable network transport layer.” (Col. 1, ll. 21-25.) In one embodiment, Davis describes that “[a] given computer may also function as a peer in a peer-to-peer network according to the present invention” (col. 8, ll. 21-23), including a sending endnode 32 and a receiving endnode 34 containing software for establishing a network session (col. 9, ll. 5-8). Davis further describes that the sending endnode 32 generally acknowledges packets received (col. 59, ll. 34-35) and that the acknowledgement is processed to ensure that unacknowledged packets are retransmitted (col. 73, ll. 44-47). In other words, Davis teaches “wherein said establishing, said transmitting, said receiving, and said retransmitting are performed according to at least one of the one or more peer-to-peer platform protocols.”

Appellants argue that Davis does not teach the first disputed limitation because “the invention disclosed in Davis is directed to network transport layers and network transport protocols.” (App. Br. 11 (emphasis in original); *see also* Reply Br. 2.) However, as discussed previously, the

disclosure in Davis that “[a] given computer may also function as a peer in a peer-to-peer network” (col. 8, ll. 21-22) teaches or suggests the claimed “peer-to-peer platform protocols.”

Therefore, we agree with the Examiner that the combination of Davis, Dreke and Black would have rendered obvious independent claim 1, including the first disputed limitation “wherein said establishing, said transmitting, said receiving, and said retransmitting are performed according to at least one of the one or more peer-to-peer platform protocols.”

Second, we are not persuaded by Appellants’ arguments (App. Br. 13-15; *see also* Reply Br. 4-7) that the combination of Davis, Dreke and Black would not have rendered obvious independent claim 1, including the second disputed limitation “wherein said peer-to-peer platform protocols are distinct from the at least one network transport protocols.”

The Examiner acknowledged that the combination of Davis and Dreke does not teach the second disputed limitation (Ans. 5) and cited Black for the disclosure of separating messaging from a transport protocol. (Ans. 5, 22; Black, col. 10, ll. 64-67). The Examiner concluded that independent claim 1, including the second disputed limitation, would have been obvious. (Ans. 5.) We agree with the Examiner.

As discussed previously, Davis describes communication over a computer network including an “approach which employs dynamic window sizing, packet metering, and other techniques to provide an efficient and reliable network transport layer.” (Col. 1, ll. 21-25.) Davis describes a network 10 including a sending endnode 32 and a receiving endnode 34 containing software for establishing a network session (col. 9, ll. 5-8) in

which a “message” is sent as a data unit over the connection (col. 10, ll. 9-10).

Black describes “message transfer between nodes of a communications network” (col. 1, ll. 5-6) in which messages are communicated between message channel agents (MCAs) working in pairs, including one sender 180 and one receiver 190’. (Col. 10, ll. 33-35.) “The message format and the safe movement protocol are transport layer independent so that MCAs can support different transport protocols on different channels.” (Col. 10, ll. 63-66.)

Thus, the combination of Davis and Black is nothing more than combining the known method of separating messaging from a transport protocol, as taught by Black, with the known method of communication over a peer-to-peer network, as taught by Davis, to yield predictable results. *See KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 416 (2007). Therefore, we agree with the Examiner (Ans. 5) that combining Davis and Black would have been obvious.

Appellants argue that “there is nothing in Black that describes the ‘message format’ and ‘safe movement protocol’ as peer-to-peer platform protocols, or anything about a peer computing system, at all.” (App. Br. 12 (emphasis in original); *see also* Reply Br. 3.) However, as discussed previously, the Examiner cited Davis rather than Black for the disclosure of the claimed “peer-to-peer platform protocols.” (Ans. 4, 20.)

Appellants also argue that “Davis is directed to techniques to provide an efficient and reliable network transport layer” (App. Br. 14 (emphasis in original); *see also* Reply Br. 6) and thus “it does not make sense to implement the teachings of Davis independent of such transport protocols.”

nor is it clear if or how this could be accomplished” and “the modification suggested by the Examiner would change the principle of operation of the system of Davis” (App. Br. 15 (emphasis in original); *see also* Reply Br. 6). However, as discussed previously, the combination of Davis and Black is based on the combination of one known network communications method with another, to yield predictable results. Furthermore, Appellants have not provided sufficient evidence to support the position that the Examiner’s proposed modification of Davis would change the principle of operation. Arguments of counsel cannot take the place of factually supported objective evidence. *See, e.g., In re Huang*, 100 F.3d 135, 139-140 (Fed. Cir. 1996).

Therefore, we agree with the Examiner that the combination of Davis, Dreke and Black would have rendered obvious independent claim 1, including the second disputed limitation “wherein said peer-to-peer platform protocols are distinct from the at least one network transport protocols.”

Third, we are not persuaded by Appellants’ arguments (App. Br. 13-14; *see also* Reply Br. 4-5) that the combination of Davis, Dreke and Black would not have rendered obvious independent claim 1, including the disputed limitation “wherein the plurality of peer nodes is configured to implement a peer-to-peer environment on the network according to a peer-to-peer platform comprising one or more peer-to-peer platform protocols.”

The Examiner found that the disclosure in Davis of a computer functioning as a peer in a peer-to-peer network corresponds to the third disputed limitation. (Ans. 4, 22-24; Davis, col. 8, ll. 21-24.) We agree with the Examiner.

As discussed previously, Davis describes that “[a] given computer may also function as a peer in a peer-to-peer network” (col. 8, ll. 21-22) and

therefore, teaches “wherein the plurality of peer nodes is configured to implement a peer-to-peer environment on the network according to a peer-to-peer platform comprising one or more peer-to-peer platform protocols.”

In addition, the third disputed limitation recites “the plurality of peer nodes *is configured to* implement a peer-to-peer environment on the network” (emphasis added). Thus, the “peer nodes” only need to be capable of “implement[ing] a peer-to-peer environment on the network.” *See In re Schreiber*, 128 F.3d 1473, 1478 (Fed. Cir. 1997). As discussed previously, Davis describes a network 10 that includes a sending endnode 32 and a receiving endnode 34 (col. 8, ll. 27-28), both of which are computers (col. 8, ll. 32-39; fig. 1). Thus, such computers have the capability of “implement[ing] a peer-to-peer environment on the network” by downloading the appropriate software onto the computers.

Appellants argue that “a computer may ‘function as a peer in a peer-to-peer network’ without necessarily including a peer-to-peer platform comprising any of the specific peer-to-peer platform protocols recited in claim 1, and without meeting the additional limitations recited therein regarding their distinction from transport protocols.” (App. Br. 13 (emphasis in original); *see also* Reply Br. 4-5.) However, Appellants have not provided sufficient evidence to support this position. Again, arguments of counsel cannot take the place of factually supported objective evidence. *See, e.g., Huang*, 100 F.3d at 139-140. As discussed previously, the disclosure in Davis that “[a] given computer may also function as a peer in a peer-to-peer network” (col. 8, ll. 21-22) teaches or suggests the claimed “peer-to-peer platform protocols.”

Therefore, we agree with the Examiner that the combination of Davis, Dreke and Black would have rendered obvious independent claim 1, including the third disputed limitation “wherein the plurality of peer nodes is configured to implement a peer-to-peer environment on the network according to a peer-to-peer platform comprising one or more peer-to-peer platform protocols.”

Last, we are not persuaded by Appellants’ arguments (Reply Br. 5) that the combination of Davis, Dreke and Black would not have rendered obvious independent claim 1, including the disputed limitation “wherein to discover comprises obtaining an address for each discovered peer node.”

The Examiner acknowledged that Davis does not teach the fourth disputed limitation (Ans. 4-5) and cited Dreke for the disclosure of tracking the presence of peers on the Internet in which a peer provides an Internet Provider (IP) address (Ans. 5; Dreke, ¶¶ [0014], [0017]). The Examiner concluded that claim 1, including the fourth disputed limitation, would have been obvious. (Ans. 5.) We agree with the Examiner.

As discussed previously, Davis describes communication over a computer network, including a computer that functions as a peer in a peer-to-peer network. (Col. 8, ll. 21-23.)

Dreke describes “a server assisted peer-to-peer network communication method for determining when a person, device or service is present on a network.” (¶ [0002].) In one embodiment, three client computers are coupled to an Internet Presence Information Server (IPIS) (¶ [0015]) in which Peers A, B, and C use clients 1, 2, and 3, respectively to log onto the Internet (¶ [0017]). Initially, Peer A transmits an IP address to the IPIS 4. (¶ [0017].)

Thus, the combination of Davis and Dreke is nothing more than combining the known method of identifying a peer in a peer-to-peer network using an IP address, as taught by Dreke, with the known method of communication over a peer-to-peer network, as taught by Davis, to yield predictable results. *See KSR*, 550 U.S. at 416. Therefore, we agree with the Examiner (Ans. 5) that combining Davis and Dreke would have been obvious.

Appellants argue that the combination of applied references does not teach the fourth disputed limitation because “Dreke describes a mechanism to establish a connection between two known peers, in which locating the peers and establishing the connection are managed by the IPIS server” and “the centralized IPIS sever [sic] mechanism of Dreke does not involve a peer-to-peer platform protocol for enabling peer nodes to discover each other.” (Reply Br. 5 (emphasis in original).) However, the Examiner cited to Davis rather than Dreke for the disclosure of the claim limitation “for enabling the plurality of peer nodes to discover each other, communicate with each other.” (Ans. 6.)

Therefore, we agree with the Examiner that the combination of Davis, Dreke and Black would have rendered obvious independent claim 1, including the fourth disputed limitation “wherein to discover comprises obtaining an address for each discovered peer node.”

Accordingly, we sustain the rejection of independent claim 1 under 35 U.S.C. § 103(a). Claims 2, 11, 15, 18, 21 and 22 depend from independent claim 1 and Appellants have not presented any substantive arguments with respect to these claims. Therefore, we sustain the rejection of claims 2, 11,

15, 18, 21 and 22 under 35 U.S.C. § 103(a) for the same reasons discussed with respect to independent claim 1. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Independent claims 25 and 45 recite limitations similar to those discussed with respect to independent claim 1 and Appellants have not presented any substantive arguments with respect to these claims. Therefore, we sustain the rejection of claims 25 and 45, as well as claims 26, 35, 39, 40, 43, 46, 55, 59, 60 and 63, which depend from claims 25 and 45, for the same reasons discussed with respect to claim 1. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Dependent Claims 3, 5, 6, 27, 29, 30, 47, 49 and 50

We are not persuaded by Appellants' arguments (App. Br. 16; *see also* Reply Br. 8) that the combination of Davis, Dreke and Black would not have rendered obvious dependent claim 3, including the disputed limitation "wherein the other peer node is configured to receive the transmitted messages, and after receiving M messages, transmit the acknowledgement to the peer node indicating that the M messages have been received, wherein M is a positive integer less than or equal to N."

The Examiner found that the disclosure in Davis of a receiving endnode 34 acknowledging each packet received, in conjunction with a send window size of two, correspond to this disputed limitation. (Ans. 8, 27-29; Davis, col. 59, ll. 34-35, col. 29, ll. 54-55.) We agree with the Examiner.

As discussed previously, Davis describes a sending endnode 32 and a receiving endnode 34. (Col. 9, ll. 5-8). Davis also describes that "[i]n general, the receiving endnode 34 acknowledges each packet received." (Col. 59, ll. 34-35.) In other words, Davis teaches that "the other peer node is configured to receive the transmitted messages, and after receiving M

messages, transmit the acknowledgement to the peer node indicating that the M messages have been received.” In one embodiment, Davis describes that a current send window size determined by the sending endnode 32 uses two as an initial value (i.e., a positive integer, N). (Col. 29, ll. 51-54.) Therefore, if all messages sent by the sending endnode 32 (i.e., the claimed “N messages”) are received by the receiving endnode 34 and an acknowledgement is sent (i.e., the claimed “M messages”), then “M is a positive integer . . . equal to N.”

Appellants argue that Davis does not “describe[] transmission of an acknowledgement indicating that M messages have been received.” (App. Br. 16 (emphasis in original); *see also* Reply Br. 8.) However, the disclosure in Davis that “the receiving endnode 34 acknowledges each packet received” (col. 59, ll. 34-35) teaches that all messages sent by the sending endnode 32 (i.e., the claimed “N messages”) are received by the receiving endnode 34 and an acknowledgement is sent (i.e., the claimed “M messages”).

Therefore, we agree with the Examiner that the combination of Davis, Dreke and Black would have rendered obvious dependent claim 3, including the disputed limitation “wherein the other peer node is configured to receive the transmitted messages, and after receiving M messages, transmit the acknowledgement to the peer node indicating that the M messages have been received, wherein M is a positive integer less than or equal to N.”

Accordingly, we sustain the rejection of dependent claim 3 under 35 U.S.C. § 103(a). Claims 5 and 6 depend from dependent claim 3 and Appellants have not presented any substantive arguments with respect to this claim. Therefore, we sustain the rejection of claims 5 and 6 under 35 U.S.C.

§ 103(a) for the same reasons discussed with respect to dependent claim 3.
See 37 C.F.R. § 41.37(c)(1)(vii).

Dependent claims 27 and 47 recite limitations similar to those discussed with respect to dependent claim 3 and Appellants have not presented any substantive arguments with respect to these claims. Therefore, we sustain the rejection of claims 27 and 47, as well as claims 29, 30, 49 and 50, which depend from claims 27 and 47, for the same reasons discussed with respect to dependent claim 3. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Dependent Claims 7, 31 and 51

We are not persuaded by Appellants' arguments (Reply Br. 9-10) that the combination of Davis, Dreke and Black would not have rendered obvious dependent claim 7, including the disputed limitation "wherein the shifted window includes one or more messages previously transmitted to the other peer node and one or more messages not previously transmitted to the other peer node."

The Examiner found that the disclosure in Davis of a sending endnode 32 retransmitting a lost packet, in conjunction with searching for the best send size when sending data, corresponds to the disputed limitation. (Ans. 9, 30-31; Davis, col. 31, ll. 1-2; col. 29, ll. 56-57.) We agree with the Examiner.

Davis describes "[w]hen the sender 32 [or sending endnode 32] receives notices that a packet was lost, and retransmits the packet, it attempts to decrease the send window size by one and readjust the best window size." (Col. 31, ll. 1-3.) In other words, Davis teaches "wherein the shifted window includes one or more messages previously transmitted to the other

peer node.” Davis also describes that “[a]s data is sent, the sending endnode 32 searches for the best send size by trying different sizes.” (Col. 29, ll. 56-57.) In other words, Davis teaches “wherein the shifted window includes . . . one or more messages not previously transmitted to the other peer node.”

Appellants argue that “[t]he Examiner’s assertion that a retransmission of a lost data packet in a reduced window size would necessarily include both messages that had been previously transmitted and messages that had not been transmitted are unsupported by the cited art and are merely speculative.” (Reply Br. 9 (emphasis in original).) However, as discussed previously, Davis describes that the sending endnode 32 retransmits a lost packet while readjusting the window size (col. 31, ll. 1-3) and describes that the sending endnode 32 searches for the best send size as data is sent (col. 29, ll. 56-57).

Therefore, we agree with the Examiner that the combination of Davis, Dreke and Black would have rendered obvious dependent claim 7, including the disputed limitation “wherein the shifted window includes one or more messages previously transmitted to the other peer node and one or more messages not previously transmitted to the other peer node.”

Accordingly, we sustain the rejection of dependent claim 7 under 35 U.S.C. § 103(a).

Dependent claims 31 and 51 recite limitations similar to those discussed with respect to dependent claim 7 and Appellants have not presented any substantive arguments with respect to these claims. Therefore, we sustain the rejection of claims 31 and 51 for the same reasons

discussed with respect to dependent claim 7. *See* 37 C.F.R.
§ 41.37(c)(1)(vii).

Dependent Claims 12-14, 36-38 and 56-58

We are not persuaded by Appellants' arguments (App. Br. 17-18; *see also* Reply Br. 10-11) that the combination of Davis, Dreke and Black would not have rendered obvious dependent claim 12, including the disputed limitation "monitor reception and retransmission of the messages to determine reliability of the communications channel on the network."

The Examiner found that the disclosure in Davis of dynamically determining send window size by probing different window sizes and examining the resulting throughput measurements corresponds to the disputed limitation. (Ans. 9-10, 31-33; Davis, col. 32, ll. 15-29; col. 30, ll. 61-67; col. 31, ll. 1-3.) We agree with the Examiner.

Davis describes that "the best window size of the present method is determined dynamically by probing different window sizes and examining the resulting throughput measurements to determine which window size is best." (Col. 32, ll. 17-21.) As discussed previously, Davis describes that when the sending endnode 32 "receives notices that a packet was lost, and retransmits the packet, it attempts to decrease the send window size by one and readjust the best window size." (Col. 31, ll. 1-3.) Similarly, Davis describes that when the sending endnode 32 receives an acknowledgement, it may increase the current send window size. (Col. 59, ll. 48-50.) In other words, Davis teaches the limitation "monitor reception and retransmission of the messages to determine reliability of the communications channel on the network."

Appellants argue that “[t]here is nothing in Davis that describes determining reliability of a communications channel, as recited in claim 12, or adjusting send or receive window sizes according to such a determination.” (App. Br. 18; *see also* Reply Br. 10.) In particular, Appellants argue that “adjusting window sizes based on throughput or congestion does not necessarily involve, or result in, a determination of the reliability of the communications channel itself.” (Reply Br. 10-11 (emphasis in original).) Contrary to Appellants’ arguments, Davis describes “probing different window sizes and examining the resulting throughput measurements” (col. 32, ll. 19-20), and therefore, teaches determining the reliability of the communications channel between the sending endnode 32 and the receiving endnode 34.

Therefore, we agree with the Examiner that the combination of Davis, Dreke and Black would have rendered obvious dependent claim 12, including the disputed limitation “monitor reception and retransmission of the messages to determine reliability of the communications channel on the network.”

Accordingly, we sustain the rejection of dependent claim 12 under 35 U.S.C. § 103(a). Claims 13 and 14 depend from dependent claim 12 and Appellants have not presented any substantive arguments with respect to these claims. Therefore, we sustain the rejection of claims 13 and 14 under 35 U.S.C. § 103(a) for the same reasons discussed with respect to dependent claim 12. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Dependent claims 36 and 56 recite limitations similar to those discussed with respect to dependent claim 12 and Appellants have not presented any substantive arguments with respect to these claims.

Therefore, we sustain the rejection of claims 36 and 56, as well as claims 37, 38, 57 and 58, which depend from claims 36 and 56, for the same reasons discussed with respect to claim 12. *See* 37 C.F.R. § 41.37(c)(1)(vii).

§ 103 Rejection – Davis, Dreke, Black and Barker

Dependent Claims 4, 28 and 48

We are not persuaded by Appellants' arguments (App. Br. 19; *see also* Reply Br. 12) that the combination of Davis, Dreke, Black and Barker would not have rendered obvious dependent claim 4, including the disputed limitation "wherein N is a positive even integer, and wherein M is equal to $N/2$."

The Examiner acknowledged that Davis does not teach the disputed limitation (Ans. 12) and cited Barker for the disclosure of sending an acknowledgement after a certain number of messages has been received (Ans. 13; Barker, col. 6, ll. 25-30). The Examiner concluded that dependent claim 4 would have been obvious. (Ans. 13.) We agree with the Examiner.

As discussed previously, Davis describes communication over a computer network, including a computer that functions as a peer in a peer-to-peer network. (Col. 8, ll. 21-23.) In one embodiment, two is used as an initial value for the current send window size. (Col. 29, ll. 54-55.)

Barker describes a multi-processor environment including a plurality of nodes interconnected by a number of networks such that messages are transmitted sequentially from a transmitting node to a receiving node. (Abstract.) Barker also describes that a subsequent message is forwarded from a first node to a second node once an acknowledgement is received. (Col. 6, ll. 25-27.) Furthermore, "[i]n a preferred method of operation . . . a window of 'N' messages is acceptable prior to acknowledgement being

received, then messages may be transferred in sequence until the maximum number of outstanding ACK [acknowledgement] awaited datagrams has been sent.” (Col. 6, ll. 28-32.)

The combination of Davis and Barker is nothing more than incorporating the known method of transmitting messages from a first node to a second node, including sending an acknowledgement after a certain number of messages has been received, as taught by Barker, with the known method of communication over a peer-to-peer network, as taught by Davis, yielding predictable results. *See KSR*, 550 U.S. at 416. Davis further teaches a send window size of two (i.e., the claimed “N messages”) (col. 29, ll. 54-55) and Barker teaches sending fewer acknowledgements than messages received (i.e., the claimed “M messages”) (col. 6, ll. 28-32). In other words, the combination of Davis and Barker teaches a value of two for “N” and a value of one for “M” (i.e., the claimed “M is equal to N/2”). Therefore, we agree with the Examiner (Ans. 13) that combining Davis and Barker would have been obvious.

Appellants argue that “[t]here is nothing in the evidence of record teaching or suggesting any reason (or benefit) for the number of messages to have the specific limitation recited in claim 4, wherein M is equal to N/2.” (App. Br. 19 (emphasis in original); *see also* Reply Br. 12.) However, as discussed previously, the combination of Davis and Barker is based on incorporating one known method with another known method to yield predictable results.

Therefore, we agree with the Examiner that the combination of Davis, Dreke, Black and Barker would have rendered obvious dependent claim 4,

including the disputed limitation “wherein N is a positive even integer, and wherein M is equal to $N/2$.”

Accordingly, we sustain the rejection of dependent claim 4 under 35 U.S.C. § 103(a).

Dependent claims 28 and 48 recite limitations similar to those discussed with respect to dependent claim 4 and Appellants have not presented any substantive arguments with respect to these claims. Therefore, we sustain the rejection of claims 28 and 48 for the reasons discussed with respect to claim 4. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Dependent Claims 8, 32 and 52

Although Appellants nominally argue the rejection of dependent claims 8, 32 and 52 separately (App. Br. 19; *see also* Reply Br. 13), the arguments presented do not point out with particularity or explain why the limitations of the dependent claims are separately patentable. Instead, Appellants “traverse the rejection of these claims for at least the reasons presented above regarding the claims from which they depend.” (App. Br. 19; *see also* Reply Br. 13.) We are not persuaded by these arguments for the same reasons discussed with respect to claims 1, 25 and 45 from which claims 8, 32 and 52 depend. Accordingly, we sustain this rejection.

Dependent Claims 9, 10, 33, 34, 53 and 54

We are not persuaded by Appellants’ arguments (App. Br. 20; *see also* Reply Br. 13) that the combination of Davis, Dreke, Black and Barker would not have rendered obvious dependent claim 9, including the disputed limitation “continue receiving the transmitted messages until the first M messages in the sequence of N transmitted messages as indicated by the sequence numbers are received.”

The Examiner found that the disclosure in Davis of assigning a sequence number to data packets, in conjunction with returning an acknowledgement to the sending endnode 32 for a certain number of packets, correspond to the disputed limitation. (Ans. 14, 34-35; Davis, col. 2, ll. 13-16; col. 60, ll. 36-43.) We agree with the Examiner.

In the “Technical Background of the Invention” section, Davis describes that data packets are “typically assigned sequence numbers” that are used to place such data packets back in their original order. (Col. 2, ll. 13-16.) Davis also describes the selection of a packet count “such that the sending endnode 32 will not stop sending data packets due to excessive delay by the receiving endnode 34 in acknowledging received packets.” (Col. 60, ll. 39-43.) In other words, Davis teaches the limitation “continue receiving the transmitted messages until the first M messages in the sequence of N transmitted messages as indicated by the sequence numbers are received.”

Appellants argue that Davis “do[es] not teach or suggest anything about continuing to receive packets until a particular number of packets are received.” (App. Br. 20.) However, as discussed previously, Davis discloses the selection of a packet count such that the sending endnode 32 continuously sends packet to the receiving endnode 34. (Col. 60, ll. 39-43.)

Appellants also argue that neither Davis “[n]or anything else in the evidence of record, teaches or suggests that the receiving node continuing to receive transmitted messages until the first M messages are received as indicated by the sequence numbers.” (Reply Br. 13 (emphasis in original).) However, as also discussed previously, Davis discloses that it is well known

to assign data packets sequence numbers that are used to place such data packets back in their original order. (Col. 2, ll. 13-16.)

Therefore, we agree with the Examiner that the combination of Davis, Dreke, Black and Barker would have rendered obvious dependent claim 9, including the disputed limitation “continue receiving the transmitted messages until the first M messages in the sequence of N transmitted messages as indicated by the sequence numbers are received.”

Accordingly, we sustain the rejection of dependent claim 9 under 35 U.S.C. § 103(a). Claim 10 depends from dependent claim 9 and Appellants have not presented any substantive arguments with respect to this claim. Therefore, we sustain the rejection of claim 10 under 35 U.S.C. § 103(a) for the same reasons discussed with respect to dependent claim 9. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Dependent claims 33 and 53 recite limitations similar to those discussed with respect to dependent claim 9 and Appellants have not presented any substantive arguments with respect to these claims. Therefore, we sustain the rejection of claims 33 and 53, as well as claims 34 and 54, which depend from claims 33 and 53, for the same reasons discussed with respect to claim 9. *See* 37 C.F.R. § 41.37(c)(1)(vii).

§ 103 Rejection – Davis, Dreke, Black and Ivanoff

Although Appellants nominally argue the rejection of dependent claims 16 and 17 separately (App. Br. 20; *see also* Reply Br. 14), the arguments presented do not point out with particularity or explain why the limitations of the dependent claims are separately patentable. Instead, Appellants “traverse this rejection for at least the reasons presented above regarding the claim from which these claims depend.” (App. Br. 20; *see*

also Reply Br. 14.) We are not persuaded by these arguments for the same reasons discussed with respect to claim 1, from which claims 16 and 17 depend. Accordingly, we sustain this rejection.

§ 103 Rejection – Davis, Dreke, Black and Antur

Although Appellants nominally argue the rejection of dependent claims 19, 20, 41, 42, 61 and 62 separately (App. Br. 21; *see also* Reply Br. 14), the arguments presented do not point out with particularity or explain why the limitations of the dependent claims are separately patentable. Instead, Appellants “traverse this rejection for at least the reasons presented above regarding the claims from which these claims depend.” (App. Br. 21; *see also* Reply Br. 14.) We are not persuaded by these arguments for the same reasons discussed with respect to claims 1, 25 and 45 from which claims 19, 20, 41, 42, 61 and 62 depend. Accordingly, we sustain this rejection.

§ 103 Rejection – Davis, Dreke, Black and Zhu

Although Appellants nominally argue the rejection of dependent claims 23, 24, 44 and 64 separately (Reply Br. 14), the arguments presented do not point out with particularity or explain why the limitations of the dependent claims are separately patentable. Instead, Appellants “traverse this rejection for at least the reasons presented above regarding the claims from which these claims depend.” (Reply Br. 14.) We are not persuaded by these arguments for the same reasons discussed with respect to claims 1, 25 and 45 from which claims 23, 24, 44 and 64 depend. Accordingly, we sustain this rejection.

DECISION

The decision to reject claims 1-64 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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